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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/812,515	03/20/2001	Ryoichi Mukai	2500.65302	2232
24978	7590	04/20/2005	EXAMINER	
GREER, BURNS & CRAIN 300 S WACKER DR 25TH FLOOR CHICAGO, IL 60606			RICKMAN, HOLLY C	
			ART UNIT	PAPER NUMBER
			1773	

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/812,515	Applicant(s) MUKAI ET AL.	
	Examiner Holly Rickman	Art Unit 1773	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 13-26 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6, 14-22 and 24-26 is/are allowed.
- 6) ☒ Claim(s) 13 and 23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. <u>4/15/05</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                                   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____.   |

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***DETAILED ACTION***

***Claim Rejections - 35 USC § 103***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. The rejection of claims, 1-4, 6, 21-22, and 24-26 under 35 U.S.C. 103(a) as being unpatentable over Lal et al. (U55580667) in view of Bedero et al. (US6150015) is withdrawn in view of Applicant's amendments.

The claims now require that "a non-magnetic element" contained in the seedlayer and "the non-magnetic element" present in the non-magnetic crystal layer and in the magnetic crystal layer are the same element. Lal et al. fails to teach or suggest the claimed structure having a magnetic layer including a lower part and upper part wherein the lower part *only partly excludes* the non-magnetic element from the magnetic crystal lattice and the upper part *completely excludes* the same non-magnetic element from the magnetic crystal lattice.

It is noted that support for the limitations "lower part" and "upper part" can be found in Figure 5 of the instant application. Figure 5 clearly illustrates a lower part (stratum or sublayer of the magnetic layer closer to the non-magnetic crystal layer) having Cr (i.e., an example of the "non-magnetic element" of the claims) along the grain boundary and within the lattice and an "upper part" (stratum or sublayer of the magnetic layer above the lower part) having Cr *only* along the grain boundary.

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While the drawings provide support for these limitations, there is no literal support in the specification. *Applicant must add the new claim language to the specification in response to this Office action.*

3. The rejection of claim 5 under 35 U.S.C. 103(a) as being unpatentable over Lal in view of Bertero, and further in view of Okumura et al. (U55700593) is withdrawn.

4. Claims 13 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lal in view of Bertero, and further in view of Okumura et al. (U55700593) for the reasons of record.

#### ***Response to Arguments***

5. Applicant's arguments filed 2/7/05 including the declaration of Ryoichi Mukai have been fully considered but they are not persuasive.

Applicant argues the aforementioned declaration is sufficient to overcome the rejection of claims 13 and 23.

The examiner respectfully disagrees. The declaration by Dr. Mukai is a statement of opinion that does not carry the same evidentiary weight as factual evidence in the form of data, scientific references, etc. Dr. Mukai merely states that in his opinion, the 5 nm thick Ti layer of the prior art does not form nucleation sites spaced apart from one another. This is not probative evidence that a 5 nm thick Ti layer does not form spaced apart nucleation sites. Thus, the rejection has been maintained.

***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Rickman whose telephone number is (571) 272-1514. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Holly Rickman", with a stylized flourish at the end.

Holly Rickman  
Primary Examiner  
Art Unit 1773

April 15, 2005